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OF COLLEGE CURRICULUM

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Introduction and Background

The purpose of this study is to determine the preference of college faculty members for different uses of knowledge and to observe the relationships of those preferences to the faculty members' positions on various curriculum and instruction issues. The conceptual framework for this study is taken largely from the curriculum development theory elaborated by Broudy, Smith and Burnett and described in their book, Democracy and Excellence in American Secondary Education and in other writings by Harry S. Broudy. A secondary purpose of this study is to provide an empirical test of that theory.

Since this study is an attempt to analyze and understand the origins of college curriculum, it is necessary for us to stipulate a definition of curriculum that governs the approach taken here. The meaning of curriculum is that chosen and elaborated by Johnson (1967, p. 130) as "a structured series of intended learning outcomes." Thus, curriculum is distinguished from instruction as ends are distinguished from means. An example of the utility of this distinction follows: Foreign languages are a familiar, though diminishing, component of academic programs. The possible uses of language as knowledge are

diverse. The ability to converse with foreign language-speaking neighbors as a goal would tend to determine French as content for students in the Northern United States and Spanish for those in the cities and in the South and Southwest. If the preferred goal were the ability to keep up with recent technical advances, German or Russian would be the preferred content. Methods of instruction would differ correspondingly: the aural - oral approach being appropriate for the former and less so for the latter.

Thomas Greene has written a richly rewarding example of analytical philosophy. In Work, Leisure, and the American Schools, (1968) Greene argues elegantly and convincingly that the value of knowledge to the knower is its usefulness. He goes on to elaborate that the utility of schooling is best understood in its broadest sense. The uses of knowledge are complex, diverse, and personalized. He clearly shows the difference between utility and vocationalism.

Broudy, Smith, and Burnett identify the intended uses of knowledge as one of the primary inputs of the curriculum development system (1964, p. 160). They identify four kinds of uses of knowledge: associative, applicative, replicative, and interpretive. Associative uses of knowledge are incidental and derive from the mental retention of bits of information that are interrelated in ways that spontaneously come to one's attention. Replicative uses of knowledge are precise, routine, and unchanging. One spells (or should spell) and uses a slide rule replicatively. Knowledge is used applicatively to solve problems. The doctor applies scientific

knowledge in the practice of medicine. The interpretive uses of knowledge may allow me to deduce that I am sick, given certain information, but I need the doctor to apply a cure to my illness. One interprets or makes sense out of the mass of sensation and information available based on one's accumulated knowledge. According to Broudy, Smith, and Burnett, the associative and interpretive uses of knowledge are characteristic of the generalist. In his field and in certain situations, the specialist tends to use knowledge replicatively and applicatively. This is in keeping with Johnson's scheme for curriculum in which he points out that the basis for curriculum selection differs for training and education (1967, p. 138).

Most of us, in today's world especially, tend to be generalists in most situations. If problems arise we seek out expertise; we look to a specialist for solutions. We are interpreters of our situations and surroundings -- Monday morning quarterbacks and back seat drivers. We use knowledge like a specialist does in limited situations. Often these situations are job related, but not exclusively. We all spell, add, and drive by using knowledge applicatively and replicatively. Hobbyists as well as professionals are specialists. This typology of the uses of knowledge is more fundamental than and transcends the usual "vocational vs. leisure" or "a living vs. life" dichotomies. Much job related work is interpretive and the astute person is distinguished by the associations he makes between bits of knowledge in all situations. For this reason, this four-part typology is more penetrating than simple dichotomies in

understanding attitudes and decisions about curriculum and instruction.

The relative preferences for these uses of knowledge are one kind of dependent variable in this study. The other kind of dependent variable is the opinion of the faculty member on a wide range of curriculum and instruction issues. The relationship between the two dependent variables would tend to establish a connection between the uses of knowledge as input and curriculum and instruction decisions as output of a curriculum development system.

In his well known treatise on Two Cultures, C. P. Snow (1959) drew much attention and agreement to the observation that the intellectual world was divided along the lines created by disciplines (or their practitioners.) Subsequently, curriculum theorists such as Schwab (1964) and King and Brownell (1966) led a school of thought that stressed the structure of the disciplines as the preferred determinant of curriculum choices. Discipline is chosen, therefore, as one kind of independent variable for this study and a three-part distinction will be made. For the purposes of this study the humanities, the social sciences and the natural sciences will constitute the relevant categories.

The success of an educational institution partly depends, according to some, on its ability to define its mission. The variety of institution types should reflect a variety of institutional goals and indeed both explicit and tacit variety exists among statements of goals. Many observers, including Jencks and Riesman (1968), have described an erosion

of institutional diversity. They claim most institutions have abandoned their specially tailored missions to imitate the research universities. This study will attempt an empirical test of this thesis by choosing institution type as a second independent variable and recognizing three types: universities, four-year colleges, and two-year colleges.

Much of what we know, or think we know, about college faculty is folklore rather than knowledge gained through systematic investigation. Like most folklore, the information contains as many false assumptions as clever insights. While there have been some systematic studies of faculty opinions, few of them have dealt specifically and extensively with curriculum as defined in this study. For example, Lazarsfeld and Thielen's well-known work (1958) surveyed the political climate and views on academic freedom during the "difficult years" of the cold war and McCarthyism. Other studies have concentrated on the job market or on religious or political preferences of college faculty.

The Institute of Higher Education at Columbia University sponsored two studies of faculty opinion based on a professional school vs. liberal arts dichotomous division. In a study of the views of professional school faculty on the liberal arts by Dressel, Mayhew, and McGrath (1959), it was found that generally favorable attitudes prevailed amid some interesting differences of opinion on priorities among disciplines. For example, the preference of agriculture faculty for biology, and business faculty for economics as general education requirements might be predicted as a

result of a high value being placed on the applicative uses of knowledge. "Liberal arts" courses are seen as "useful" mainly for professional purposes. In this study, roughly 3,400 of the 6,000 distributed questionnaires were returned. The survey was implemented through the cooperation of deans of schools. This investigator prefers to employ a departmental level of organization. Dressel and Lorimer (1960) surveyed the attitudes of liberal arts faculty toward liberal and professional education. With data based on 1,190 returns out of 2,575 distributed questionnaires it was found that the natural scientists were least willing to add more liberal arts courses as requirements and most willing to reduce them. Community colleges were not included in these studies, understandably, since it is only recently that a large percentage of students have attended them. These two studies were designed to reveal the attitudes of faculty members toward knowledge in general and its uses. Such attitudes would be derived mainly from views of one's own discipline and would be investigated with this emphasis.

In a survey of faculty and student opinion on the mission of the university, Lewis (1967) tested hypotheses derivable from C. P. Snow's essay on the "Two Cultures," namely that narrow and disparate views are held on the proper goals of education. Lewis interprets his data as affirming Snow's thesis. Dividing faculty into four categories: Humanities, Social Science, Science, and Engineering, he found predicted differences on the relative importance of general educational goals, such as vocational competence and ethical standards. Scientists favored

vocational goals while humanists stressed character development.

Interestingly, undergraduates reflected the same differences as the faculty but were uniformly more vocationally oriented. (Also, interestingly, significant male/female differences in responses were demonstrated.) The study was conducted on a single large university campus.

A recent study sponsored by the Research and Development Center on Higher Education at the University of California at Berkeley yielded some relevant information on faculty attitudes (Wilson and Gaff, 1970 and Gaff and Wilson, 1971). These investigators found college faculty generally favorable toward selected educational changes and found that those more favorable were more liberal politically and more sympathetic toward students. The questionnaire, of which roughly 70% of the 1,559 were returned, listed six general educational goals and called for a selection of the two most important. "Broad general education" was the winner with 61% of the respondents ranking this goal as one of the top two. Humanists were over-represented in this group. "Self knowledge and a personal identity" was second with 44%. Social scientists were over-represented in this group. Natural scientists and professional school faculty heavily weighted the 31% that chose "Knowledge and skills directly applicable to their careers." This survey, which was conducted at a wide variety of institutions, also polled attitudes regarding controversial incidents of the type more common a few years ago, such as protests, strikes, and disruptions by students.

The largest survey was a recent collaborative effort of the

Carnegie Commission on the Future of Higher Education and the American Council on Education (Bayer, 1970). 60,028 usable responses were obtained to questions dealing with a wide variety of topics including campus governance, national policies, and social issues. Relevant to the study proposed here, 48% agreed to the statement "I prefer teaching courses which focus on limited specialties to those which cover wider varieties of material" (p. 18), and 56.7% agreed to "Undergraduate education in America would be improved if there were less emphasis on specialized training and more on broad liberal education" (p. 17). The studies cited above contribute to the general impression of division of academic opinion into two and often more than two camps concerning the goals of a college education.

Method of Research

A questionnaire was devised which included over one hundred selected response items. Content validity of items representing the four uses of knowledge was established by the consensus of expert judges. The instrument was piloted to refine the wording of items and to sample the variety of responses. The population was established as all college and university teachers in New York State. For the sample, institutions were chosen at random from blocked categories of public and private two-year colleges, four-year colleges, and universities. Departments were chosen to represent the three major discipline types: humanities, social sciences, and natural sciences, and invitations to participate in the study were distributed through department chairmen. The data analysis is based on

the responses of two hundred thirty-four faculty members representing twenty institutions and fifty-eight departments throughout New York State. Data were coded for electronic processing which included tabulations, correlations, analyses of variance, and comparisons of means.

Respondents were asked to rate the importance of examples of knowledge use. Ratings were obtained for each example stated as a goal for students majoring in the respondent's discipline, for non-majors taking a service course or distribution requirement, and for students studying other disciplines as majors. In the respondent's own discipline, the scores for the replicative and applicative uses of knowledge (the specialist uses) were subtracted from the scores for the associative and interpretive (the generalist uses). This figure plus a constant yielded a number describing the extent to which a scholar can be called a generalist^o according to his beliefs about the uses of knowledge.

Results

Respondents were asked to rate the importance of knowledge use examples. Those rating the generalist (associative and interpretive) uses more highly than the specialist (replicative and applicative) uses received a high generalist score. In rating the uses of knowledge as goals for their own disciplines, the derived score is designated G1 (for "generalist") G1 was correlated to the respondents agreement or disagreement with a series of statements about curriculum and instruction in colleges. The correlations were significant (S) or highly significant (H.S.)

in the following cases.

<u>Statement</u>	Correlation	
	Significance	Direction
*The typical undergraduate curriculum has suffered from the overspecialization of faculty members.	S.	+
*Colleges in general should be doing a better job of preparing students for careers.	H.S.	-
*Undergraduate education in America would be improved if:		
a. All courses were elective	H.S.	+
b. Grades were abolished	H.S.	+
c. Less emphasis were placed on specialized training and more on broad liberal education	H.S.	+
*The recent trend in colleges has been away from specific course requirements for the bachelor's degree. Are you in agreement with the trend to eliminate:		
mathematics requirements?	H.S.	+
*The following kinds of interdisciplinary departments and programs should be developed and supported in the future:		
a. American Studies	H.S.	+
b. Area Studies (e.g., East African Studies)	H.S.	+
c. Afro-American Studies	H.S.	+
d. Women's Studies	H.S.	+

In addition to the above, significant correlations were obtained showing that specialists expressed support for greater emphasis than generalists on the lecture technique, textbooks, and evaluation through midterm and final exams. Generalists and specialists classified according to the knowledge use preferences, coincided highly significantly with

their description of themselves as generalists or specialists.

No statistical analyses were done on the influence of the independent variables of the poll of curriculum and instructional issues, but some interesting differences appeared. For example, community college faculty were overrepresented among those who agreed strongly or moderately with the following statements.

*Undergraduate education in America would be improved if:

- a. Course work were more relevant to contemporary life and problems.
- b. More attention were paid to the emotional growth of students.

*Undergraduate professional programs, such as those in business and education should have a higher proportion of practical, as opposed to theoretical, experiences than they have at present.

*Undergraduate pre-professional programs, such as those for medicine and law, should have a higher proportion of practical, as opposed to theoretical, experiences than they have at present.

*The earlier introduction of practical experiences in the educational sequence of professional and pre-professional programs is desirable.

*Colleges should devote more of their resources to continuing (adult) education.

Natural scientists were underrepresented among those in agreement with the following statements.

*Undergraduate education in America would be improved if:

- a. All courses were elective
and
- b. Less emphasis were placed on specialized training
and more on broad liberal education.

*The following kinds of interdisciplinary departments and programs should be developed and supported in the future:

- a. American Studies
- b. Area Studies (e.g., East African Studies)

G1 was found to be uncorrelated with responses to most items. For example, while fifty percent of the respondents agreed that "course work should be more relevant to contemporary life and problems", the use of knowledge scores were not predictive of the response to this item. Interestingly, this item was included in a study done in the late sixties, during the period of high student unrest and demands for relevance, (Bayer, 1970.) At that time, seventy-five percent agreed. Relevance has its fashions. It is also worthy of note that one of the most fundamental reforms being tested in higher education, the three year baccalaureate, has the backing of only thirty percent of the faculty polled in this study.

Respondents were asked to rate the importance of examples of the four uses of knowledge in each of four contexts. For example, ratings were solicited on the importance of the ability to "recognize allusions to the classical achievements in the arts and sciences" to the humanities major, the social sciences major, the natural sciences major, and to the non-major taking a distribution course in the respondent's field. (The example given is of the associative use, as verified by the consensus of expert judges). Sixteen use of knowledge values were thus obtained for each respondent (four uses in four contexts.) Both one way and two way analyses of variance failed to show any effect of the institution type employing the faculty member on these sixteen measures. No interaction of institution with discipline type was found. Significant or highly significant values

for F were obtained when varying the discipline type of the faculty member. In all four contexts, the applicative use varies significantly as did the associative use for non-majors. Subsequent comparisons of group means through Sheffe's F test revealed the source of the variations.

Unexpectedly, it was found that social scientists valued the applicative use of knowledge in all four contexts less than did either the natural scientists or the humanists. Humanists valued the associative use of knowledge for non-majors taking a course in their field more highly than either the social scientists or natural scientists. G1, that figure representing the aggregate generalist tendency of the faculty member, was found significantly lower for natural scientists than for either the humanists or social scientists.

Conclusions

Curriculum research is relatively rare. Rather than studying methods or conditions of education, curriculum research focuses on questions of what is to be learned and for what purposes. This study contributes to an understanding of college curriculum by analyzing the opinions of the makers of college curriculum within a delimited conceptual perspective. Analyses of higher education are usually either conceptual and non-empirical or conversely they are accumulations of statistics without a rational framework. This investigation combines the theoretical approach with empirical verification.

These results generally tend to support the validity of the "two cultures" phenomenon and the strength of the discipline variable in educational issues. The lack of institution effect supports the contention that homogeneity of purpose is the rule among colleges and universities.

There were some exceptions to the institutional homogeneity shown in these data. Noticably higher precentages of community college faculty expressed support for the "community service" goals of colleges and for practical emphases in the curriculum. The research method used here was unable to detect a correspondingly low G1, or aggregate generalist measure, for this group.

These data show that the curriculum development theory of Broudy, Smith, and Burnett to be a useful analytical tool in addition to being a pleasing one, conceptually. The interrelationships of the use of knowledge ratings and of these ratings to expressed positions on curriculum and instruction issue strengthen the validity of the theory.

Some recent educational "reforms", such as the elimination of course requirements and grades, are clearly unpopular among faculty, whether they be generalists or specialists. That these practices have become established without the majority support of faculty, means that the faculty have been unwilling or unable to defend their educational beliefs.

An explanation of the differences among the disciplines regarding the use of knowledge ratings is not available in these data. It is possible to speculate, however, within the approach used here which stresses the implications of the structures of the disciplines. The humanities are the oldest and most established of the academic specialities, and the natural sciences arose from the established humanities sufficiently long ago to have their battle for academic respectability be largely forgotten. This is not true for the social sciences, whose fight to prove their scholarly objectivity and productivity is still in progress. The interpretive use

of knowledge is seen by many as loftier than the applicative use; analysis more scholarly than remediation. As examples of this kind of argument, many interpret the Vietnam tragedy and the excesses of welfare-ism to be a result of the inappropriate application of social science knowledge. This might help explain the reluctance of social scientists to rate the applicative use as an important goal.

The high rating given by the humanists to the associative use for non-majors is consistent with the popular view of these disciplines as the repository of culture. The study of literature and philosophy (even the superficial study) is widely believed to be important for the "rounding out" of all students.

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